

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Managing cognitive impairment following stroke: Protocol for a systematic review of non-randomised controlled studies of psychological interventions.
AUTHORS	Merriman, Niamh; Sexton, Eithne; Donnelly, Nora-Ann; McCabe, Grainne; Walsh, Mary; Rohde, Daniela; Gorman, Ashleigh; Jeffares, Isabelle; Pender, Niall; Williams, David; Horgan, Frances; Doyle, Frank; Wren, Maev-Ann; Bennett, Kathleen; Hickey, Anne

VERSION 1 – REVIEW

REVIEWER	Jennifer Mandzia Western University, Canada Authors (AH and DW) are collaborators on a grant I am a principal investigator on
REVIEW RETURNED	05-Sep-2017

GENERAL COMMENTS	<p>Thank you for a well written proposal for a systematic review examining psychological interventions for post stroke cognitive impairment.</p> <p>My two questions and concerns are related to:</p> <p>1) Outcomes- MMSE and MOCA will be used as your main cognitive test outcomes to evaluate the efficacy of the intervention. I have concerns regarding these tests as outcomes as they are at best screening tests of cognition. Likely they were chosen as they are commonly used to assess cognition. They do assess multiple cognitive domains but not thoroughly. Please justify the use of screening tests vs. domain specific tests and address these specific concerns. How will you classify change across tests? Will one point change be meaningful for example?</p> <p>2. Sub-group analyses: This will be dependent on the number of studies and total number of patients. How will you account for other confounding variables like depression and fatigue which may influence cognitive performance. I would include this as another pre-planned sub-group to examine, if depression and fatigue scores are available.</p>
-------------------------	---

REVIEWER	Satu Baylan Institute of Health and Wellbeing, University of Glasgow, UK
REVIEW RETURNED	28-Sep-2017

GENERAL COMMENTS	<p>The authors describe a protocol for a systematic review of non-randomised controlled studies of psychological interventions for improving cognitive functions after stroke.</p> <p>The manuscript is well written, includes the use of appropriate reporting and assessment guidelines (PRISMA, GRADE, ROBINS-I tool). The protocol been registered with PROSPERO with</p>
-------------------------	---

	<p>anticipated completion date in January 2018. The review is timely and a welcome addition to complement a proposed Cochrane review including only RCTs given the relatively limited evidence for the efficacy of interventions aimed at treating post-stroke attentional and memory problems. If all areas of cognition are covered as indicated, this should provide a fairly comprehensive review of psychological interventions for treating post-stroke cognitive problems. I note some minor edits for the authors to consider that could further improve the manuscript:</p> <p>Title: consider having 'treating' or another wording to this effect before cognition so that it is immediately clear that the review relates to treatment of post-stroke cognitive impairment.</p> <p>Abstract: 'stroke being a primary cause for death and disability worldwide. I recommend changing to 'is one of the primary causes' as stated in the introduction so that it is clear that it is not the leading cause for either death nor disability worldwide according to the World Health Organisation.</p> <p>Introduction, line 33: There is no established psychological.. - consider rewording this sentence given that various psychological interventions have been developed and are in use but their efficacy is yet to be properly established.</p> <p>Outcome measures: 'other validated' measures': consider adding 'of cognition'/'domain specific'. I presume this refers to more detailed cognitive assessments as opposed cognitive screens?</p> <p>Types of interventions: It would be useful to state whether the interventions can be of any duration or whether a minimum length or whether a minimum number of sessions or duration is required. Perhaps also state some commonly used interventions/strategies under the subheadings as you have done for educational and electronic interventions (e.g. errorless learning, vanishing cues etc).</p> <p>Comparisons or controls: state whether 'active' controls will be accepted in addition to usual/routine care.</p>
--	--

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Jennifer Mandzia

1) Outcomes- MMSE and MOCA will be used as your main cognitive test outcomes to evaluate the efficacy of the intervention. I have concerns regarding these tests as outcomes as they are at best screening tests of cognition. Likely they were chosen as they are commonly used to assess cognition. They do assess multiple cognitive domains but not thoroughly. Please justify the use of screening tests vs. domain specific tests and address these specific concerns. How will you classify change across tests? Will one point change be meaningful for example?

Response: We agree with the reviewer that the MoCA and MMSE are used as screening tests of cognition. However, as these measures are widely reported as cognitive assessments across studies, we did not want to limit our search by excluding them. We have updated the relevant paragraph on page 7 relating to outcome measures to the following:

“The outcome of interest is improved cognition after stroke, using a validated measure of domain specific cognitive function, including those comprising the NINDS 30-minute or 60-minute battery of cognitive assessment (28). As a number of studies report scores from cognitive screening tools such as the Montreal Cognitive Assessment (MoCA) (25), Mini-Mental State Examination (MMSE) (26), and Abbreviated Mental Test (AMT) (27), these validated measures of cognition will also be acceptable. Other validated measures of domain specific cognitive function are also acceptable, as are validated measures of subjective cognitive function (e.g. Cognitive Failures Questionnaire (29); Metamemory in Adulthood Questionnaire (30)) and Goal Attainment Scaling (31).”

In relation to the reviewer's comment regarding how we will classify change across assessments, we have added the following paragraph to the strategy for data synthesis section on page 9:

“Where there are no established thresholds for meaningful change for a given measure, the effect size thresholds suggested by Cohen (36) will be used - ‘trivial’ ($ES < 0.20$), ‘small’ ($ES \geq 0.20 < 0.50$), ‘moderate’ ($ES \geq 0.50 < 0.80$), or large ($ES \geq 0.80$). Where necessary and possible, effect sizes will be adjusted to account for the correlation between baseline and outcome measures, as outlined by Middel and van Sonderen (2002) (37).”

2) Sub-group analyses: This will be dependent on the number of studies and total number of patients. How will you account for other confounding variables like depression and fatigue which may influence cognitive performance. I would include this as another pre-planned sub-group to examine, if depression and fatigue scores are available.

Response: The impact of depression and/or fatigue on cognitive performance will be included as an additional subgroup analysis, if sufficient data from reviewed studies are available (page 9).

Reviewer: 2

Reviewer Name: Satu Baylan

1) Title: consider having 'treating' or another wording to this effect before cognition so that it is immediately clear that the review relates to treatment of post-stroke cognitive impairment.

Response: We have changed the title to “Managing cognitive impairment following stroke: Protocol for a systematic review of non-randomised controlled studies of psychological interventions”.

2) Abstract: 'stroke being a primary cause for death and disability worldwide. I recommend changing to 'is one of the primary causes' as stated in the introduction so that it is clear that it is not the leading cause for either death nor disability worldwide according to the World Health Organisation.

Response: The opening statement in the abstract has been changed to “stroke is one of the primary causes of death and disability worldwide”.

3) Introduction, line 33: There is no established psychological.. - consider rewording this sentence given that various psychological interventions have been developed and are in use but their efficacy is yet to be properly established.

Response: This sentence on page 4 has been changed to “the efficacy of existing psychological interventions for the rehabilitation of cognitive impairment following stroke has yet to be established”.

4) Outcome measures: 'other validated' measures': consider adding 'of cognition'/'domain specific'. I presume this refers to more detailed cognitive assessments as opposed cognitive screens?

Response: We have changed the sentence on page 7 to read “. Other validated measures of domain specific cognitive function are also acceptable”.

5) Types of interventions: It would be useful to state whether the interventions can be of any duration or whether a minimum length or whether a minimum number of sessions or duration is required. Perhaps also state some commonly used interventions/strategies under the subheadings as you have done for educational and electronic interventions (e.g. errorless learning, vanishing cues etc).

Response: We have changed the sentence on page 6 to read “psychological interventions of any type and duration intended to rehabilitate cognition post-stroke will be included”. We have also included examples of strategy training, such as errorless learning, mnemonic strategies, and vanishing cues, on page 7.

6) Comparisons or controls: state whether 'active' controls will be accepted in addition to usual/routine care.

Response: We have changed the sentence on page 7 to “studies addressing psychological interventions to improve cognition following stroke in comparison to a usual/routine care control arm or an active control arm will be included”.

VERSION 2 – REVIEW

REVIEWER	Jennifer Mandzia Western University, Canada
REVIEW RETURNED	06-Nov-2017

GENERAL COMMENTS	No further comments
-------------------------	---------------------

REVIEWER	Dr Satu Baylan Institute of Health and Wellbeing, University of Glasgow, UK
REVIEW RETURNED	13-Oct-2017

GENERAL COMMENTS	The authors have successfully addressed both reviewers' previous comments.
-------------------------	--